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Sectional Floating Dry Dock - 1844.

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New York Dry Dock Company

A

BRIEF SKETCH
OF THE
PLAN AND ADVANTAGES
OF
A SECTIONAL
FLOATING DRY DOCK,
COMBINED WITH
A PERMANENT
STONE BASIN AND PLATFORM,
AND CONNECTED WITH
LEVEL BEDWAYS, SLIDING WAYS, AND HOUSED SLIPS FOR REPAIRING, LAUNCHING, AND LAYING UP IN ORDINARY THE SHIPS OF THE
UNITED STATES NAVY.

NEW-YORK:
PRINTED BY JARED W. BELL, CORNER OF ANN
AND NASSAU STREETS.

1844.

EXPLANATION OF THE PLATE.

A. A. Represents a part of the Navy Yard.
B. The Face Wall or Bulk Head of Navy Yard.
C. A Pier extending out at right angles 175 feet.
D. The Stone Basin and Platform 250 feet square.
E. is the Sectional Dock with a ship elevated on it.
F. F. F. is three sett ways on three sides of the basin.
G. is a Hydraulic Cylinder for drawing off a ship.
H. A Ship House covering three sett ways.
I. A ship drawn off the Docks on the ways.
J. is the Keel of a new ship laid on the ways for building.

A

BRIEF SKETCH

New York Dry Dock Co.

OF THE

PLAN AND ADVANTAGES

OF A

SECTIONAL FLOATING DRY DOCK,

COMBINED WITH

A PERMANENT STONE BASIN AND PLATFORM,

AND CONNECTED WITH

LEVEL BEDWAYS, SLIDING WAYS, AND HOUSED SLIPS, FOR
REPAIRING, LAUNCHING, AND LAYING UP IN
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NEW-YORK:
PRINTED BY JARED W. BELL, CORNER OF NASSAU AND ANN STREETS
1844.

Eng 5258.44

1861, Mar. 19
Gift of
Sam. A. Green M.D.,
of Boston.
(Class of 1851)

SECTIONAL FLOATING DRY DOCK.

The Sectional Floating Dry Dock is a recent invention, for which several Patents have been issued. It has been in operation three years to Dec. 18th, 1843, in the City of New York, and has acquired the entire confidence of every Shipbuilder, Shipwright, and all persons engaged in Shipping or Steam Boats, who have had occasion to make use of it, and nearly all whom have voluntarily come forward and signed certificates declaring its decided and unquestioned superiority over all other plans of Docks. During the time it has been in operation, five hundred and twelve vessels, Ships and Steam Boats, have been raised and repaired upon it without the slightest accident either to the vessel or Dock, and it has given universal satisfaction both to the owners and shipwrights. Among the ships raised, have been the merchantmen Ackbar, Thos. W. Perkins, Damascus, America, Iowa, Queen Victoria, Eglinton, U. S. Sloop of War Vincennes, and numerous other first class ships, also the Steam Boats, Natchez, Diamond, Albany, North America, South America, Rhode Island, De Witt Clinton, Utica, Mohegan, Knickerbocker, Troy and many others, all with the most perfect ease, safety, and satisfaction of their owners.

A recent improvement has been made in the manner of using this Dock by uniting or combining it with a permanent Stone Basin, connected with Bed and Sliding Ways with a view of adapting it to the service of the Navy, for the purpose of repairing, rebuilding or laying up in ordinary, vessels of War, which in the opinion of Mechanics competent to judge, renders it superior and much more efficient and convenient than the excavated Stone Dock, or any other plan known. The mode of using the Dock will be hereafter explained.

In Great Britain the want of some such plan for raising Ships and laying them up in ordinary, in Ship houses above the level of the water, has long been felt and acknowledged.

In order to provide for the protection of large ships, a great number of Granite Dry Docks have been built, at an enormous expense, (though much less than they would have cost in this country, owing to the great rise and fall of the tide there,) and such of them as are not required for building and repairs, are covered with roofs and used for laying up some of the ships-of-the-line, that are in ordinary, though the number is, as yet, inadequate to provide except for a small portion of them. The importance which is attached to this subject in that country, whose experience in naval matters, will be conceded by all to be worthy of profound consideration, is evinced by the following extracts from the *Encyclopedia Brittanica*, vol. 8, pp. 77, &c.

"Another very material improvement, recently introduced into His Majesty's Dock Yards, is that of *covering the Dry Docks and Building Slips* with roofs. The rapid decay of our ships of war, by that species of disease known by the name of *dry rot*, attracted very general attention; its effects were well known, but a variety of opinions were entertained as to its causes and its cure. It was quite obvious, however, that exclusion of air and moisture, were the two great operating causes in giving activity to the progress of the disease, and that a ship in dock stripped of her planking, and open to the weather in every part, alternately exposed to frost, rain, wind, and sunshine, must at least have her timbers differently affected, some swelled and water soaked, and others shrunk with heat, and others rifted with wind and frost; and if closed up with planking in this state, might be expected at no great distance of time, to exhibit symptoms of decay. The workmen, too, in the open Docks and Slips, suffered from the vicissitudes of the weather, no less than the ships, and their labor was frequently suspended, to the great detriment of the naval service. The measure of roofing over the Docks and Slips, had long and repeatedly been suggested, but either from prejudice or false economy, it was only very recently carried into practice, and is now almost universal in all the Yards."

Again: "These covers have been in use in Venice, from time immemorial, and Mr. Strange, the British Consul at that port, in 1792, says, that he saw twenty-two large ships laid up there under covered Slips, some of which had lain there for sixty years."

Again: "*The advantages which Slips are supposed to possess over Dry Docks, are many and important.* They can be constructed at one twentieth part of the expense; they occupy less space; they can be constructed on a steep or a shelving shore, and ships can be hauled upon them either in spring or neap tides; whereas, a Dry Dock can only be made in particular situations, and when made, ships can only be docked and undocked, in certain states of the tides, from which circumstance, considerable delay and inconvenience are frequently experienced. It should be recollected, however, that a large ship must necessarily go into a Dock preparatory to her being hauled out in the Slip. It has been considered not at all improbable, as was suggested sometime ago by Mr. Perring, *that the whole Ordinary may hereafter be laid on Slips, which, if housed over, would unquestionably be the best means of increasing their durability, and preserving them from partial decay. Nor is it certain that in the end, it would not be the most economical.*"

It will be seen that it is fully admitted in England, that many serious objections exist against the present system of Excavated Docks which were constructed at a time when no other method was known for taking ships out of the water. These defects we now propose to remedy in a great measure by the introduction of a new plan of Dock, Basin, Bed and Sliding Ways.

Similar views were entertained by President Jefferson, who in his Message to Congress, in December, 1802, says: "Presuming it will be deemed expedient to expend annually a convenient sum toward improving the Naval defence, which our situation may require, I cannot but recommend that the *first appropriations* for that purpose, *may go to the saving of what we already possess.* No care, no attention, can preserve vessels from rapid decay, which *lie in water and exposed to the sun.* These decays require great and constant repairs, and will consume, if continued, a great portion of the moneys destined to Naval purposes. To avoid this waste of our resources, it is proposed to add to our Navy Yard here, *a Dock, within which our present vessels may be laid up dry and under cover from the sun. Under these circumstances, experience proves that works of wood will remain scarcely at all affected by time.* Similar depositories for laying up, as well as building and repairing vessels, may hereafter be undertaken at other Navy Yards."

The method of raising the ships to the requisite elevation, for protection in housed slips, on an inclined plane, in addition to the difficulty of applying the requisite mechanical force to accomplish it, is liable to the still more serious objection, that when they are to be let into the water again, they must be launched in the ordinary way. The evils and dangers attendant upon launching, are so serious, that ships of the first class are commonly constructed at present in Dry Docks, in England, and afterwards floated out by opening the flood gates.[*] In this country, the Board of Navy Commissioners have taken the same view of the subject, and recognised the injuries which result from launching ships of the first magnitude.[†]

It will therefore at once be admitted, that a plan, which will raise vessels from their floating level, wholly *above the surface* of the water, and deliver them *upon the surface* of the dry land, and which, with an efficiency almost unlimited, can raise one ship after another, till it delivers a whole fleet upon the shore, and is, at the same time, cheaper in its construction, more convenient, and better in its operation than any other known method, will render services to the naval marine of the highest importance, by preserving the maritime power of the nation in a state of efficiency, ready for active use, and saving continual outlays for the building of new ships to take the place of those that decay.

[*] Vide *Encyc. Brit.*, vol. 13, p. 55.

[†] U.S. Navy Com. Report, to 19th Congress, (1826.

Such a plan is provided by the SECTIONAL FLOATING DRY DOCK, used in connexion with its permanent Platform, Basin, Bedways, and Housed Slips. It can be built with all its appurtenances, in one fifth part of the time usually required in erecting *one* stone dock, and at one half of the expense, and in point of efficiency for actual use, it is equivalent to a *number* of Stone Docks. Indeed, it may be said with truth, that *one* Dock upon this plan, *costing less than half a million of dollars, is superior in all respects to the whole combined system of English Dry Docks, for their naval establishment, which has cost them many millions of dollars.*

It is unnecessary to give a written description of the Dock and working model, as the accompaning plan will explain its operation. It should however be stated, that the Dock is lowered, the ship to be raised floated over the keel blocks, and the water exhausted out of the Dock, which raises or floats above the level of the water with the ship upon it.

Having supposed the vessel elevated entirely *above the surface* of the water, upon a floating structure, which will draw about ten feet of water when thus raised, and capable of being easily moved with its burden in any required direction, let the reader imagine a basin large enough to turn the Dock around within it, excavated in the shore contiguous, with a permanent level platform of piles, concrete or masonry, constructed in its bottom, allowing the water to flow over it a sufficient depth, say ten feet. It will readily be perceived, that the Dock, with the vessel on it, may be floated into the basin, and allowed, by filling the tanks with water, to settle and rest upon the platform, which will afford a stable and permanent foundation, to sustain it beyond the reach of accidents. Let him suppose that a number of level bedways are laid upon the shore at right angles to any of the three sides of this basin; that the Dock, with the vessel on it, being easily turned around in the water, is made to settle down in the direction of, and in connexion with, any one of these bedways, at the option of the superintendent; that the bedway, selected, is extended from the shore upon the top of the Dock, directly under the ship; that a cradle is made under the ship's bottom, to which sliding ways are firmly attached; and that, by a mechanical power fixed upon the shore, or in any convenient manner, the vessel is hauled off from the Dock on a level, by the cradle, into a ship house on the solid earth, from which it may be delivered back again upon the Dock, at pleasure. The reader will then understand how one vessel after another, being first raised on the Sectional Floating Dock, is delivered and carried out upon the *surface* of the earth, or removed back again upon the top of the Dock, to be let down into the water.

In addition to the number of ships that could thus be delivered on the ways, at the same time, the Dock would be at liberty to raise and hold ships requiring temporary repairs, and is alone, independent of its connexion with the basin, platform, and bedways, far more efficient than a Stone Dock, as it can take two or more vessels upon it at the same time.

A more efficient, perfect, safe, and easy manner of delivering ships out of the water can scarcely be conceived, and it is allowed by all practical mechanics, (whose experience gives their judgements a weight, which that of the mere theorist is not entitled to,) to be the best, most convenient and cheapest method ever before devised; obviating all the objections against both Floating and Stone Docks, combining the convenience of the light, flexibility, air, and room of the one, with the permanency and solidity of the other, and presenting a facility and efficiency for taking out a number of ships at the same time, and safely launching large ships or steamers, peculiar to itself alone, and hitherto wholly unknown.

By the aid of this Dock, not one ship alone, as in a Stone Dock, but a WHOLE FLEET, could, one after another, at a small expense, be securely placed upon the stocks in a Navy Yard, or laid up in ordinary in ship houses, where they would be perfectly protected against *dry rot* and every other source of decay. By its aid, the longest steamers and the heaviest ships of the line, could be safely launched without incurring the risk of straining, or hogging, or wrinkling their copper, while in Great Britain, vessels of this kind are usually constructed in Stone Docks to avoid this serious evil.

It is claimed that this plan of Dry Dock, is greatly superior to the Excavated Stone Dock and any other Dock whatever, for the following among other reasons, viz:

1. It presents a pliant, flexible, and yielding platform, capable of being made of any required strength by trussing, which conforms as soon as the vessel is brought to its bearing, to the shape of the keel and bottom; being upheld itself by the upward pressure of the water, more or less power being applied by each section, as required by the displacement of the ship.

2. It brings the vessel's bottom up fully into the light and air and affords a clear, broad, and well lighted platform from stem to stern, enabling the workmen to do their work from fifteen to twenty per cent. cheaper than on any other dock.

3. It is capable of expansion, contraction, and division, adapting itself to the length of the vessel, and forming on the instant, two or more separate docks, each independent and perfect in itself; so that putting all the sections together, it is capable of raising the largest ship-of-the-line, or separating them into two or more berths; it can at the same time, take up two vessels of a smaller class, as a frigate and sloop-of-war; an advantage, which is of much moment when it is considered that the greatest portion of vessels in the Navy are of the latter class, and which renders a Dock of this kind equal to two on any other plan; and when used in connexion with bed and sliding ways, its efficiency is increased immensely, and can be carried to any desired extent.

4. It is easily taken out of the water to be repaired, one section being raised on two others for that purpose; but other floating docks, though much more liable to get out of repair, in consequence of the immense strain on an inflexible platform, cannot be repaired without great difficulty, even on a small scale, and *not at all on a large one.*

5. A Dock on this plan can be towed together or in sections from place to place, at a trifling cost, and in case of danger from the enemy, it could be sunk in deep water or removed to a place of safety, and after the danger was over, it could be raised and returned to its position.

6. The best test of the *simplicity* of all the machinery which has been devised and applied to obtain the above important results, is to be found in the fact, attested by the certificate of the Superintendent, who has worked the Dock over since it was built, that no accident of any kind has ever occurred, either to the Dock or to any vessel, nor has the slightest injury happened to any part of the machinery.

On this Dock a ship is raised on a large, tight, dry platform *above the level of the water*, and held in exactly the same position as when afloat, in the most firm and secure manner, and presents, (in the language of an intelligent shipbuilder,) *a most perfect and convenient Ship Yard afloat.* Every part of a ship can be thoroughly examined, and lays as convenient for the mechanic to make his repairs, as if she was on the stocks in a ship yard, and it is admitted by shipwrights, that a ship can, from the convenient manner in which she lays, be repaired at least 15 or 20 per cent. less than in any other plan of Floating or Dry Dock. It will readily be perceived that, in an Excavated Dock, the ship is almost entirely below the surface, in a very inconvenient position, and the mechanic has to make his repairs in a dark, damp, unwholesome place. As evidence of the convenience of this Dock, and the great facility and despatch it affords for raising, working and making repairs on ships, one simple fact may here be stated.

The steamboat KNICKERBOCKER, one of the longest in the world, being 306 feet in length, and 1000 tons burden, was raised, cleaned, and let down by this Dock, in seven hours, a despatch in docking unprecedented in this or any other country. Previous to raising this boat, a line of sights was placed across the deck, about ten feet apart from stem to stern, which has also been done with other long boats raised, and without, in any instance, being changed from a straightline in raising or lowering the boats and every door would open and shut without binding as freely as when the boat was afloat in the water, this is accomplished by exhausting more water from one than another section, to correspond with the displacement of the boat when afloat.

From two to three days is the usual time required for raising, stripping, caulking, recoppering and lowering into the water first class packet ships, a despatch attained by the short time required in Docking the Ship, and the facilities afforded the workmen.

It is presumed that the memorials and certificates annexed hereto, signed by *every shipbuilder* and all the *shipwrights* in the city of New York, but two, (who are interested in other docks,) and by distinguished houses interested in shipping, together with the certificates of owners of steamboats, will be *sufficient* to satisfy any unprejudiced and candid mind, of the great superiority and utility of this Dock, and its pre-eminent claims upon the attention of Congress. They are signed by men whose names, as eminent and skilful shipwrights, will be recognised by all with respect and pride. Among the signers of the recommendations, are Messrs. WESTERVELT & MACKEY, the builders of the splendid Havre packets, and more lately of those models of beauty and skill, the *Ashburton, Prince Albert, and Victoria;* Messrs. BROWN & BELL, known as the builders of the celebrated London packets, the Spanish Steamers, and Queen of the West; Messrs. WEBB & ALLEN, builders of the well known Liverpool packets; Messrs.

Smith & Dimon, builders of the splendid Knickerbocker steam boat, and a number of merchant ships; Messrs. **Bishop & Simonson**, also, **Jabez Williams**, well known as extensive and skilful shipbuilders; **William H. Brown**, well known as the builder of the Russian steamer, the Kamschatka, and the Empire; **Divine Burtis**, builder of some of the North River steamboats; and **Herbert Lawrence**, well known as the builder of a large number of L. I. Sound steamboats. Messrs. **Whitlock & Berrien**, **Webb, Robertson & Co.**, and **Bucknam & Casilaer**, are well known as very extensive shipwrights, and of great practical experience in raising ships, and working upon all kinds of docks. The well known names of Jas. A. Stevens, Esq., Cornelius Vanderbilt, Esq., and J. Newton, Esq., will also be recognised as large steamboat owners, and men of great practical knowledge, and who have had a number of the largest class of steamers repaired upon this Dock. The opinion of all these experienced and practical shipbuilders and shipwrights, is entitled to great weight, and their character as such would not suffer by a comparison with that of any other class of naval architects, in this or any other country.

By the annexed certificates, it will be seen that most of the foregoing facts are strongly substantiated by a class of men, who will at once be admitted to be the best judges of the subject, viz: the shipbuilders, shipwrights, and steamboat owners, who are thorough practical mechanics, and who have seen, tried, and thoroughly proved and tested this Dock, and who have been conversant with it from the time the first section was launched in 1840. As all the shipbuilders, shipwrights, and most of the ship owners in New York have signed the certificates, it cannot be attributed to party influence or favor, but is a voluntary and significant tribute to the vast superiority of this Dock, by the whole shipping interest of New York.

A statement is annexed in the appendix exhibiting the saving to the Government, by constructing a floating instead of a Stone Dock, and showing that economy is united with great improvement, and cheapness with superior merit.

APPENDIX.

(A.)

List of shipbuilders in the City of New-York, engaged in business at the present time:

WESTERVELT & MACKEY,
HERBERT LAWRENCE,
JABEZ WILLIAMS,
BROWN & BELL,
WEBB & ALLEN,
SMITH & DIMON,
BISHOP & SIMONSON,
DIVINE BURTIS & CO.,
WILLIAM H. BROWN.

List of shipwrights in the City of New-York, engaged in business at the present time:

WEBB, ROBERTSON, & CO.,
BUCKNAM & CASILAER,
WHITLOCK & BERRIEN,
IRVINE & CLARK,
PETER MACNAMARA,
FRANCIS SECOR & CO.,

We hereby certify, that the above are lists of leading and principal shipwrights and shipbuilders, engaged in business in the City of New-York, at the present time.

(Signed) GRINNELL, MINTURN, & CO.

The above list is introduced to show, that all the principal shipbuilders and shipwrights have signed certificates in favor of the Dock, and preferring it to any other plan of a dock.

(B.)

CERTIFICATE OF SHIPWRIGHTS AND SHIPBUILDERS.

New-York, October 25, 1842.

We, the undersigned shipbuilders and shipwrights, engaged in the business of building and repairing ships, in the City of New-

York, hereby certify, that we understand the principle of the Sectional Floating Dry Dock, now in use at the foot of Rutgers-street, and its manner of operation, and unhesitatingly pronounce it, in our judgment, a very superior Dock for the purpose of raising ships and steamboats, from the smallest to the largest class, and securely and safely holding them in the same position as when raised, while undergoing the necessary repairs, and also in a very convenient position for the workmen, who have abundance of Light, Air and Room, and every facility for working at all parts of the bottom and keel of the ship. During the time this Dock has been in operation, we have heard of no accident having happened to any ship on it, or of any ship having been strained or injured in the least; and we believe it has given general satisfaction to ship owners and shipwrights who have had occasion to use it, which is the best proof of its utility and usefulness; and as a superior Dock, we cheerfully recommend it to government, to be adopted for the use of the Navy.

WESTERVELT & MACKEY, Shipbuilders.
HERBERT LAWRENCE, Shipwright.
WHITLOCK & BERRIEN, do.
BUCKNAM & CASILEAR, do.
WEBB, ROBERTSON, & CO., do.
IRVIN & CLARK, do.
DININE BURTIS & CO., do.

Another certificate of the same date, and almost precisely like the above, now on file in the office of the Secretary of the Navy, signed—

WEBB & ALLEN, Shipbuilders.
JABEZ WILLIAMS, do.
SMITH & DIMON, do.
BISHOP & SIMONSON, do.
BROWN & BELL, do.

(C.)

To the Senate and House of Representatives of the United States, in Congress assembled:

The memorial of the undersigned, shipbuilders and shipwrights, resident and in business in the City of New-York, respectfully represents: that your memorialists are well acquainted with the several plans of Dry Docks for raising vessels for coppering and repairs: that among the several establishments for this purpose, at present in operation in this City, the one known as the Sectional Floating Dry Dock, at the foot of Rutgers-street, possesses by far the greatest elevating capacity: that we have repeatedly had vessels repaired upon it to our entire satisfaction: that we have no hesitation in declaring it in every respect a superior Dock, and most admirably adapted to accomplish the object for which it was constructed: that merchant ships of the largest class, have been raised upon it in the most satisfactory manner, and that we entertain no doubt that the elevating power of this kind of Dock, can be extended with perfect safety, to a capacity of raising a line-of-battle ship: that its sectional arrangement gives the structure the ability to be extended to accommodate the largest steamers, and embrace their greatest width without endangering its strength, and from its flexible platform, enables it to comform to the shape of the vessel, and lift it equally upon its bottom, and endues it with the important advantage of being divisible into two separate Docks, to raise two vessels at a time, and perform the service of two independent Docks on any other plan: and that on these accounts and others, we prefer it to the plan of any other Floating Dock known to us. We, therefore, cheerfully recommend it to the Government, as a useful Dock for the service of the Navy; and your memorialists, as in duty bound, will ever pray, &c.

New-York, January 2, 1843.

WEBB, ROBERTSON, & CO., Shipwrights.
C. & R. POILLON, do.
BUCKNAM & CASILEAR, do.
JNO. HARRISON, do.
WESTERVELT & MACKEY, Shipbuilders.
HERBERT LAWRENCE, do.
WHITLOCK & BERRIEN, Shipwrights.
DIVINE BURTIS & CO., Shipwrights and builders.
BROWN & BELL, Shipbuilders.
WEBB & ALLEN, do.
WM. H. BROWN, do.
DENIKE & KING, Shipwrights and sparmakers.
BAYLES & BROWN, do. do.
BISHOP & SIMONSON, Shipbuilders.
IRWIN & CLARK, Shipwrights and builders.
WM. RODMAN, Shipwright.

C. EDGAR SMITH, Shipwright.
GEO. A. SAUNDERS, do.
ALLEN GORHAM, do.
FICKET & THOMES, Shipbuilders.

(D.)

To the Senate and House of Representatives of the United States.

The Memorial of the undersigned, ship owners and interested in shipping, resident and in business in the City of New-York, respectfully represents: That your memorialists are well acquainted with the several plans of Dry Docks, for raising vessels for coppering and repairs: that among the several establishments for this purpose, at present in operation in this City, the one known as the Sectional Floating Dry Dock, foot of Rutgers-street, E. R., possesses by far the greatest elevating capacity: that we have no hesitation in declaring it in every respect a superior Dock, and most admirably adapted to accomplish the object for which it was constructed: that merchant ships of the largest class have been raised upon it in the most satisfactory manner, and that we entertain no doubt that the elevating power of this kind of Dock, can be extended with perfect safety, to a capacity of raising a line-of-battle-ship: that it raises the vessel up more fully into the light and air, and affords the shipwright more room and better access to the vessel's bottom, than any other Dock; that its sectional arrangement gives the structure the ability to be extended to accommodate the longest steamers, and embrace their greatest width, without endangering its strength; and from its flexible platform, enables it to conform to the shape of the vessel and lift equally upon its bottom, and endues it with the important advantage of being divisible into two separate Docks, to raise two vessels at a time, and perform the service of two separate Docks on any other plan: that on these accounts and others, we prefer it to any other plan of Dry Dock that has come to our knowledge. We, therefore, cheerfully recommend it to the Government as a useful Dock for the service of the Navy, and your memorialists will ever pray, &c.

NEW-YORK, Dec. 29th, 1842.

GRINNELL, MINTURN, & CO., Agents and part owners of the new lines of London and Liverpool packet ships.

CHAS. H. MARSHALL, Agent and part owner of the Old line of Liverpool packets.

ROBERT KERMIT, Agent and part owner of the Old lines of Liverpool and London packets.

RICHARD IRVIN, Agent and part owner of the Great Western line of Atlantic steamers.

DUNHAM & DIMON, Agents and part owners of the New Orleans, Mobile, and Charleston packets.

C. BOLTON, FOX, & LIVINGSTON, Agents and part owners of the Havre line of packet ships.

BARCLAY & LIVINGSTON, Agents of the Cunard line of Atlantic steamers.

GOODHUE & CO., Agents and part owners of the Old line of Liverpool packets.

JOHN GRISWOLD, Agent and part owner of the London Old line of packets.

WOODHULL & MINTURN, Agents of the Liverpool line.

JOHN ELWELL & CO., Agents and part owners of the Mobile and New Orleans packets.

STURGES & CLEARMAN, Agents and part owners of the Savannah, Norfolk, and Mobile packets.

JOHN OGDEN, Agent and part owner of the Richmond and other Southern packets.

POST & PHILLIPS, Agents and part owners of the Apalachicola and other packets.

CENTER & CO., Agents and owners of Mobile packets.

JOHNSON & LOWDEN, Agents and owners of New Orleans packets.

SAMUEL THOMPSON, Agent and owner of Liverpool packets.

ABRAHAM BELL & CO., Agents of Transatlantic Steam Navigation Co.

ROCHE, BROTHERS, & CO., Agents of Liverpool packets.

JACOB HARVEY, President of Washington Marine Insurance Company.

Z. COOK, Jr., President Mutual Safety Insurance Company.

GORDON & TALBOT,	Ship owners.
TAYLOR & MERRILL,	do.
S. E. GLOVER,	do.
WM. M. PECK,	do.
TALBOT, OLYPHANT, & CO.,	do.
CARY & CO.,	do.

BUCK & CO.,	Ship owners.
JOSIAH MACY & SONS,	do.
H. & J. B. MURRAY,	do.
A. G. & A. W. BENSON,	do.
PETER J. NEVIUS & SONS,	do.
DAVIS, BROOKS, & CO.,	do.
JOHN B. LASALA & CO.,	do.
J. FOULKE & SONS,	do.
HICKS & CO.,	do.
E. DUNSCOMB & BECKWITH,	do.
JOHN PETERS & CO.,	do.
ALLEN & PAXON,	do.
MOSES TAYLOR,	do.
PRATT & BURR,	do.
JONATHAN HILLMAN,	do.
P. J. FARNHAM & CO.,	do.
SLATE, GARDNER, & HOWLAND,	do.
J. & N. BRIGGS,	do.
DEPEYSTER & WHITMARSH,	do.
NEW-YORK INSURANCE COMPANY,	
AMERICAN INSURANCE COMPANY,	
B. McEVERS,	Ship owner.
A. B. NEILSON,	do.
HOWES, GODFREY, & ROBINSON,	do.
PETER HARMONY'S NEPHEWS,	do.
R. P. BUCK,	do.
JAMES HENRY,	do.
RUSSELL & COPELAND,	do.
EVERETT & BATTELLE,	do.
BRETT & VOSE,	do.

AND MANY OTHERS.

(E.)

I hereby certify, that I had the large packet ship, "Ville de Lyon," taken out a short time since, on five of the seven sections of the Floating Dry Dock, foot of Rutgers street, E. R., in a manner perfectly satisfactory. She was raised with great facility, without the least strain, the Dock conforming to the shape of the vessel, and lifting equally on all its parts, and was held in a perfectly easy manner while out of the water; remaining on during one of the severest storms experienced in this harbor, without the least strain or motion of the vessel or Dock; and I have no hesitation in recommending this as a perfectly safe Dock, possessing the greatest elevating power within my knowledge, and affording greater facilities for making the repairs, having a broad, tight floor from stem to stern, unobstructed light and free access to the bottom of the vessel.

CHARLES STODDART,
Master of the Ville de Lyon.
New-York, Dec. 24, 1842.

We concur in the above statement of Captain Stoddart.

C. BOLTON, FOX, & LIVINGSTON,
Owners of the Ville de Lyon and Agents of the Havre packets.
December 30, 1842.

(F.)

New-York, Oct. 24, 1842.

The undersigned, interested in steamboats, and resident in the City of New-York, do hereby certify, that we are acquainted with the operation of the Sectional Floating Dry Dock, at the foot of Rutgers-street, in the East River; that we have had steamboats repaired thereon; that we unhesitatingly pronounce it the best plan of Dry Dock, that we know of, for taking up steamboats for repairs, and as such, we recommend it to the attention of the Navy Department, to be adopted for the use of the United States Navy.

JAMES A. STEVENS,
S. R. ROE,
R. B. COLEMAN,
A. H. SHULTZ,
ALEX'R McLEAN,
DANIEL DREW,
J. H. VANDERBILT,
JOSEPH J. COMSTOCK,
CORNELIUS VANDERBILT,
M. H. TRUESDELL,
L. U. BRAINARD,
J. NEWTON,
JOHN B. VAIL,
CURTIS PECK,
JOHN DUNLOP,
ANTHONY N. HOFFMAN.

(G.)

We, the undersigned, shipwrights, &c., resident and in business in the City of New-York, do hereby certify, that we have been for a long time engaged in the business of coppering and repairing vessels, and are well acquainted with the different plans of Dry Dock, used for that purpose; that we are familiar with the construction and operation of the Sectional Floating Dry Dock, foot of Rutgers-street, East River, and we have no hesitation in declaring it, in our opinion, the best plan of Dry Dock know to us; that the conveniences for shoring and staging; the broad, tight floor from stem to stern; the perfect exposure of the vessel's bottom to the light and air; and the facilities for repairing or putting on a keel or shoe, by depressing into the water by means of screws, one section at a time, and giving the vessel an equally easy bearing on continuous ways on each side of the keel, which is left clear of the blocks the entire length of the vessel, if necessary, enable the workmen to accomplish their labor from 15 to 20 per cent. cheaper in this than any Dry Dock on any other plan.

WEBB, ROBERTSON, & CO., Shipwrights.
DIVINE BURTIS & CO., Shipwrights and builders.
BUCKNAM & CASILEAR, Shipwrights.
IRWIN & CLARK, Shipwrights, caulkers, &c.
WESTERVELT & MACKEY, Shipbuilders, &c.
WHITLOCK & BERRIEN, Shipwrights.
WEBB & ALLEN, Shipbuilders.
BISHOP & SIMONSON, Shipbuilders.
BROWN & BELL, Shipbuilders.
DENIKE & KING, Shipwrights.
GEORGE A. SAUNDERS, Shipwright.
HERBERT LAWRENCE, Shipbuilder.
BAYLES & BROWN, Shipwrights.
C. & R. POILLON, Shipwrights.
JOHN HARRISON, Shipwright.
C. EDGAR SMITH, Shipwright.
ALLEN GORHAM, Shipwright.

NEW-YORK, Jan. 4, 1843.

(H.)

LETTER FROM CAPTAIN GREGORY, U. S. NAVY.

U. S. REC. SHIP, NORTH CAROLINA,
NEW-YORK, Nov. 16, 1842.

Sir—Understanding that S. D. Dakin, Esq., President of the New-York Dry Dock Company, is about presenting himself to you for the purpose of laying before you, plans and proposals for building a Dock upon the same principles, for Naval purposes, upon this station; I beg leave most respectfully, to represent for your information, that having at various times, since the Floating Dock has been in operation, examined its construction, and witnessed the facility, safety, and despatch with which ships have been taken in and repaired, I am fully convinced of its superiority over all other kinds I have seen: and I have no hesitation in recommending it to your consideration, as being, in my opinion, the most safe, economical, and expeditious mode of constructing a Dry Dock; and that it can be constructed, so as to answer all the purposes required in a Naval Establishment.

I have the honor to be,
Very respectfully, your ob't serv't,
(Signed,) F. H. GREGORY, Captain, U. S. N.

Hon. A. P. Upshur,
Secretary of the Navy, Washington.

(I.)

I hereby certify, that I have examined the Sectional Floating Dry Dock, at the foot of Rutgers-street, on the East River, in this city, and have had the steamer Mohegan raised on it, and found it to answer an admirable purpose, taking her up without strain or alteration in her shape, holding her in a perfectly easy position, and lowering her into the water in the same easy manner, affording every facility to the workmen for doing the repairs, having a broad, tight floor, from stem to stern, with a free circulation of air and unobstructed light; and I cheerfully recommend it as the best plan of Floating Dock which has come within my observation or knowledge.

CHAS. OVERING HANDY,
President N. J. Steam Navigation Company.
New-York, Dec. 21, 1842.

(J.)

I hereby certify, that I have been the Superintendent of the Sectional Floating Dry Dock, since it was first put in operation, in December, 1840; that since that time, it has been in constant and successful operation, raising vessels of various sizes, from the smallest to the largest; that *upwards of five hundred* vessels have been taken up and repaired thereon, between that time and the 29th day of December, 1842, (about two years;) that no accident of any kind has ever occurred, either to the Dock itself or to any vessel while being raise or repaired thereon, or let down into the water; nor has the slightest injury ever happened to any part of the machinery of the Dock.

PHINEAS BURGESS,
Superintendent of the Sectional Floating Dry Dock.
New-York, Nov. 1, 1843.

(K.)

OPINION OF THE AMERICAN INSTITUTE.

The American Institute last Spring appointed a Committee to examine this plan of Dry Dock, who made a long and able report; but we have room only for the following extract, which embraces the conclusion at which they arrived:

"In view of the qualities which a Floating Dry Dock possesses, for purposes to which a fixed arrangement would be inapplicable, such as its portability, its easy application in harbors where, from great depth of water or softness of bottom, other Docks could not be constructed, and also from the successful operation of this arrangement, its applicability to the ordinary purposes of a Dry Dock, your Committee feel assured of its extensive adoption, and cheerfully express their opinion of its superiority over any other Floating Dry Dock, or work of this description, which has come to their knowledge.

June 19, 1842. T. B. STILLMAN, Chairman."

(L.)

OPINION OF FOSTER RHODES, Esq.,

Naval Constructor at Brooklyn, and late Chief Naval Constructor to the Grand Seigneur, and builder of the Stone Dry Dock at Constantinople, contained in a long and able letter to Mr. Dakin, last Spring, from which the following is a short extract:

"The structure which you have built, consisting of seven sections, is capable of raising vessels of greater size than any Elevating Dry Dock I have yet seen. This power is, in my opinion, capable of increase to a very considerable extent, without detriment to its operations, and is exerted in such a manner upon the vessel, as to hold her in position out of the water, by a pressure similar to that which sustains her when afloat, thus affording the best possible security against any strain or injury.

"In your Dock, the sections fit as it were, to the vessel's keel and bottom, and conform, while they lift, to its floating shape, pressing harder or lighter at each point, as it may require more or less support. Many other advantages might be named, such as better light, and more room for the shipwright, and greater conveniences in shoring than on any other Dock; and also ability of being removed from one location to another, and independence of the tides, unknown to other Docks. I would not be understood as attempting to specify in detail, the advantages of your plan of Dry Dock, but merely to allude to a few of the most prominent ones.

"I would also remark, that your plan is the cheapest method, at least hitherto devised, of bringing the requisite power to bear in the right way for raising vessels, for repairing and coppering: and I can hardly conceive how any thing cheaper could be invented, than yours, if constructed with economy and mechanical skill.

"I assure you I shall have no hesitation, if called upon for an opinion, to recommend to the United States Government, to construct a Floating Dry Dock upon your plan, forthwith, for the use of the Navy. The reasons which I should give are, that great breadth, so much required for steamers, is an advantage to the stability of this Dock, and the facility of extending its length to the extreme of steam ships; *second*, its cheapness; and *third*, the short time it would require to erect and put one in efficient operation. A Dry Dock on your plan can be built in a few months, whereas it will take some years to complete the Excavated Dry Dock, now begun at this yard.

"The premises of the United States, at this place, are well adapted to receiving a Dock on your plan, as any requisite depth of water can be easily procured at a trifling expense, with a dredging machine.

"The Naval service demands a Dry Dock at New-York, without delay. The efficiency and advantages of yours, induce me to say, unhesitatingly, that the subject of building one for the use of the Navy, is entitled, in my opinion, to the immediate attention of the Government."

(M.)

Extract from the Report of a Select Committee of the Common Council of the City of New-York, on the subject of a Dry Dock, to raise the U. S. Ship of the Line FRANKLIN, *adopted unanimously on the 12th day of June,* 1843.

"In case this plan should fail, (which is not at all probable, in the opinion of your Committee,) there is a Sectional Floaing Dry Dock in this port, at the foot of Rutgers-street, East River, capable of raising so large and heavy a mass. This is the same Dock which took up the U. S. Ship Vincennes, last summer, to the great satisfaction of the Government, which has raised repeatedly the largest class of merchant ships, on five only of the seven sections composing the Dock, and is certified by a large number of shipping merchants and shipwrights, to be decidedly the best plan of any Dry Dock hitherto devised.

every eighty feet, and so on, to an unlimited extent. Each one of these bedways, upon which the same Dock may deliver any number of ships, is in fact far better in all respects, and holds the vessels in a far more favorable position than an Excavated Granite Dock on the old plan. The basin and bedways would be as permanent and durable as the Granite Dock, and the most expensive part of the Floating Dock being constantly saturated with salt water, would be nearly imperishable. the parts of the structure that would be perishable at all, would last for a whole generation, at least, and are readily renewed as they decay to the permanent parts; and the whole could be replaced, if required, for the interest of the cost of one Stone Dock, every four or five years.

The cost of the single Stone Dock at Norfolk was	$974,000
The interest lost for several years, while the Dock was building, and before it could be used, would bring the cost up to about	$1,200,000

New-York, January 1st, 1844.

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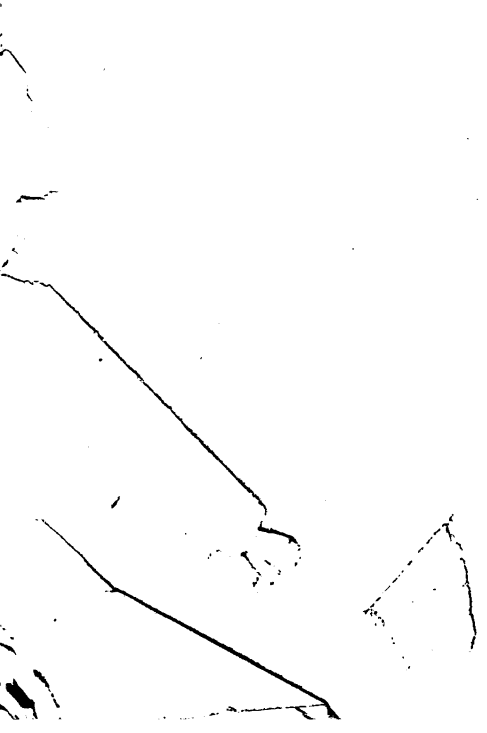

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